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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/627,779      | 07/28/2003  | Shinichi Nagano      | 240963US2SRD        | 4290             |

22850 7590 01/27/2006

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EXAMINER

HARPER, LEON JONATHAN

ART UNIT PAPER NUMBER

2166

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 10/627,779             |  | NAGANO ET AL.       |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | Leon J. Harper         |  | 2166                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/23/2006</u>   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This office action is in response to the application 10627779 filed 7/28/2003.

Claims 1-18 are pending.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6529899 (hereinafter Kraft) in view of importing the Semantic Web in UDDI (hereinafter Payne) (art of record) and in further view of 5862325 (hereinafter reed) .

As for claim 1 Kraft discloses: a second storage section which stores a database that associates preconditions representing, in predicate form, necessary conditions for users to use Web services via an information communication network, with post

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conditions representing, in predicate form, the effects of invocation of the corresponding Web services (See column 8 lines 26-30).

2. Kraft differs from the claimed invention in that Kraft does not explicitly disclose and acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including a Web service having the preconditions matching with the user data and a Web service having the post conditions matching with the user data, creating a Web service linking plan where the individual Web services included in the combination are arranged in the order of the logical combination, a first storage section which stores user data that makes predicates indicating a states of a user coordination plan creating means for, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from the first storage section.

Payne however does discloses: acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including a Web service having the preconditions matching with the user data and a Web service having the post conditions matching with the user data (See page 4 1<sup>st</sup> paragraph), and Reed discloses: creating a Web service linking plan where the individual Web services included in the combination are arranged in the order of the logical combination (See reed column 19 lines 37-41) and a first storage section which stores user data that

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makes predicates indicating a states of a user (See reed column 23 lines 27-31); coordination plan creating means for, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from the first storage section (See reed column 34 lines 49-53). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teachings of Payne and Reed into the system of Kraft. The modification would have been obvious because automatically disclosing web services matching the user data and creating a web service linking plan will allow for faster and more efficient communication over the network.

As for claim 2, the rejection of claim 1 is incorporated, and further reed discloses: the coordination plan creating means carries out a first process of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 16 lines 5-11), and a second process of matching the predicate the precondition with a predicate of first predicate including the user data unmatched in the first process and matching the predicate of the post condition with a second predicate including the predicate of the user's request unmatched in the first process respect to other Web services excluding the one Web service (See column 115 lines 23-29).

As for claim 3, the rejection of claim 2 is incorporated, and further Reed discloses: the coordination plan creating means carries out the second process by calling the first process recursively (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

3. As for claim 4, the rejection of claim 1 is incorporated, and further reed discloses: the coordination plan creating means carries out a first process of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 48 lines 35-39), and a third process of matching the predicate of the post condition with a third predicate including the predicate of the user's request unmatched in the first process in respect to other Web services excluding the one Web service (See column 48 lines 40-45).

As for claim 5, the rejection of claim 4 is incorporated, and further reed discloses the coordination plan creating means carries out the third process by calling the first process recursively (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 6, the rejection of claim 1 is incorporated, and further Payne discloses: third storage section which stores an ontology dictionary where a plurality of predicates describing each state by predicate logic notation are classified hierarchically

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in database form (See figure 1), wherein the coordination plan creating means creates matching user data by changing the predicate included in the user's request according to a hierarchical level in the ontology dictionary (See page 4 paragraph 2).

As for claim 7 Kraft discloses: a second step of acquiring from the second storage a combination of Web services which satisfies the user's request by logically combining the preconditions and post conditions for a plurality of Web services including a Web service having the preconditions matching with the user data and a Web service having the post conditions matching with the user data (See column 8 lines 26-30).

4. Kraft however differs from the claimed invention in that a first step of, when receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from a first storage section; and a third step of creating a Web service linking plan where the individual Web services included in the combination acquired in the second step are arranged in the order of the logical combination are not explicitly disclosed. Reed however does disclose receiving a user's request including search conditions for the Web services, acquiring matching user data in predicate form corresponding to the user's request from a first storage section (See reed column 23 lines 27-31); and a Web service linking plan where the individual Web services included in the combination acquired in the second step are arranged in the order of the logical combination (See reed column 19 lines 37-41) . It would have been obvious to an artisan of ordinary skill

in the pertinent art to have incorporated the teachings of Reed into the system of Kraft. The modification would have been obvious because The modification would have been obvious because receiving user request and creating a web service linking plan will allow for faster and more efficient communication over the network.

As for claim 8 the rejection of claim 7 is incorporated, and further reed discloses: a fifth step of matching the predicate of the precondition with a first predicate including the predicate of the user data unmatched in the fourth step and matching the predicate of the post condition with a second predicate including the predicate of the user's request unmatched in the fourth step in respect to other Web services excluding the one Web service (See column 115 lines 23-29).

Reed and Kraft differ from the claimed invention in that a fourth step of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service and Payne however, does disclose: a fourth step of matching the predicate of the precondition with the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See page 4 1<sup>st</sup> paragraph). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teaching of Payne into the system of Reed and Kraft. The modification would have been obvious because matching with respect to one service is time saving and more efficient then always checking every service.



As for claim 9, the rejection of claim 8 is incorporated, and further reed discloses: the second step is a step of carrying out the fifth step by calling the fourth step recursively. (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 10, the rejection of claim 7 is incorporated, and further reed discloses: a sixth step of precondition with the matching the predicate of the predicate of the user data and matching the predicate of the post condition with the predicate of the user's request in respect to one Web service (See column 16 lines 5-11), and a seventh step of matching the predicate of the post condition with a third predicate including the predicate the user's request unmatched in the sixth step in respect to other Web services excluding the one Web service (See column 115 lines 23-29).

As for claim 11, the rejection of claim 10 is incorporated, and further reed discloses: the second step is a step of carrying out the seventh step by calling the sixth step recursively. (See column 115 lines 25-30 note: the submitting of additional data is done in the same manner).

As for claim 12, the rejection of claim 7 is incorporated, and further Payne discloses: using an ontology dictionary where a plurality of predicates describing each state by predicate logic notation are classified hierarchically database form (See figure 1), wherein the first step is a step creating matching user data by changing the

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predicate included in the user's request according to a hierarchical level in the ontology dictionary (See page 4 paragraph 2).

Claims 13-18 are computer readable medium claims corresponding to the method claims 7-12 respectively and are thus rejected for the same reasons set forth in the rejection of claims 7-12.


***Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon J. Harper whose telephone number is 571-272-0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LJH  
Leon J Harper  
January 23, 2006

  
**MOHAMMAD ALI**  
**PRIMARY EXAMINER**